Agenda Item 2.
The Science Enterprise Workshop:
Supporting and Implementing Collaborative Science

Delta Plan Interagency Implementation Committee Meeting #6

November 14, 2016

Panelists:

Jessica Law, Delta Stewardship Council

Mike Chotkowski, US Geological Survey

Science Enterprise Workshop Planning Committee:

Co-chair: **Jessica Law**, Delta Stewardship Council
Co-chair: **Mike Chotkowski**, USGS

Cliff Dahm, Delta Lead Scientist
Jay Lund, Delta Independent Science Board
Tracy Collier, Delta Independent Science Board
Rainer Hoenicke, Delta Stewardship Council
Kate Anderson, Delta Stewardship Council
Amanda Bohl, Delta Stewardship Council
Lindsay Correa, Delta Stewardship Council
Nir Oksenberg, Delta Stewardship Council
Erin Foresman, USEPA
Ted Sommer, DWR
Peter Goodwin, University of Idaho
Jeff Loux, UC Davis Extension

The Science Enterprise Workshop:

Supporting and Implementing Collaborative Science

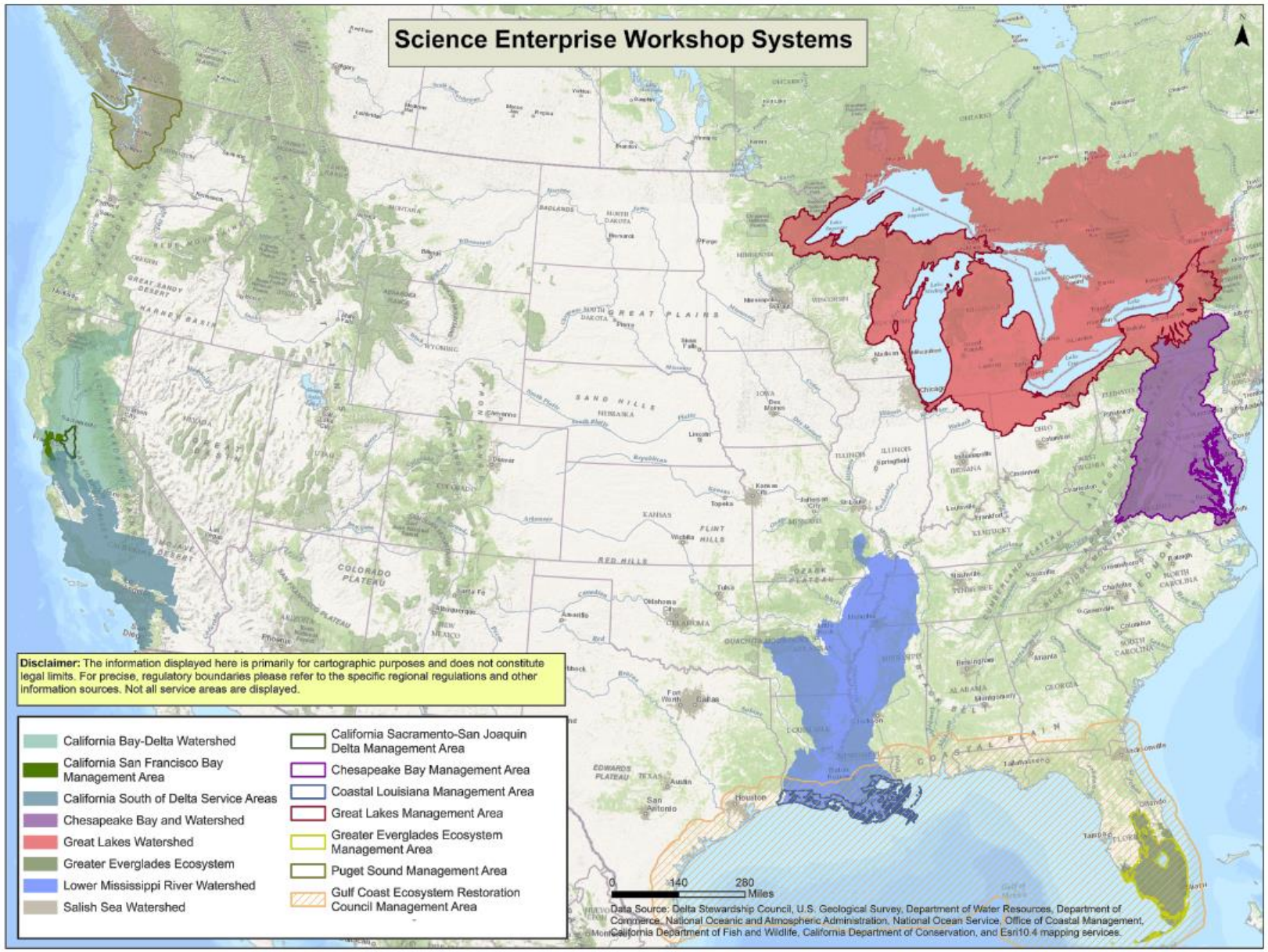
November 1-2, 2016

Co-hosted by the Delta Stewardship Council and the USGS

DELTA STEWARDSHIP COUNCIL

USGS
science for a changing world

The Science Enterprise Workshop
November 1-2, 2016
Davis, California



The Science Enterprise Workshop:

Supporting and Implementing Collaborative Science

November 1-2, 2016

Davis, CA — ARC Ballroom A

Photo Credit: California Department of Water Resources

A two-day workshop to better understand how collaborative science is being managed, funded, and communicated in several high-profile ecosystems across the country.

Co-hosted by:

Delta Stewardship Council

USGS science for a changing world

November 1: 8:30-5:00 pm

Regional Program Presentations

Coastal Louisiana	Denise Reed (Water Institute of the Gulf)
Puget Sound	Bill Labiosa (USGS)
	Scott Redman (Puget Sound Partnership)
Chesapeake Bay	Scott Phillips (USGS)
Florida Everglades	Nick Aumen (USGS)
Great Lakes	Jon Hortness (USGS)
California Bay-Delta	Ted Sommer (DWR)
	Josh Collins (SFEI)

Points of Comparison

- History of Regional Program Development
- Major Resources Management Issues
- Current Science Enterprise Structure
- Funding for Science
- Important Tools for Implementing Science
- Communications and Co-Production

The Science Enterprise Workshop:

Supporting and Implementing Collaborative Science

November 1-2, 2016

Davis, CA — ARC Ballroom A

Photo Credit: California Department of Water Resources

A two-day workshop to better understand how collaborative science is being managed, funded, and communicated in several high-profile ecosystems across the country.

Co-hosted by:

Delta Stewardship Council

USGS science for a changing world

November 2: 8:30-5:00 pm

Panel #1: Science Strategies in Large Programs

Presentation: International Examples of Effective Science Strategies (Cliff Dahm)

Panelists: Nick Aumen, Steve Brandt, Cliff Dahm, Steve Lindley, Scott Phillips, Denise Reed (Facilitator**:** Jay Lund)

Panel #2: Governance and Adaptive Management

Presentation: Impact of Regulations on Science (David Wegner)

Panelists: Jon Hortness, Jayantha Obeysekera, Richard Roos-Collins, Felicia Marcus, David Wegner, Carl Wilcox (Facilitator**:** Jessica Law)

Panel #3: Funding and Resource Allocation

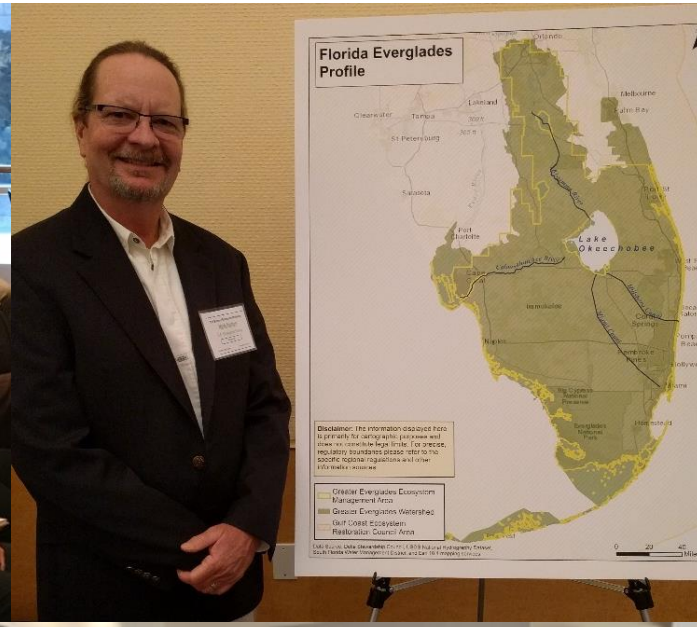
Presentation: Program Development and Resource Allocation Related to the Gulf Coast Ecosystem Restoration Council (Alyssa Dausman)

Panelists: Josh Collins, Alyssa Dausman, Peter Goodwin, Stephanie Johnson, Scott Phillips, Denise Reed, Lisa Wainger (Facilitator: Erin Foresman)

Panel #4: Legitimacy, Co-Production, and Communication

Presentations: Perceptions of Science: CA Delta and Beyond (Mark Lubell)
Credible Science in a Complex World (Denise Lach)

Panelists: Nick Aumen, Ken Currens, Denise Lach, Mark Lubell, Jayantha Obeysekera, David Wegner (Facilitator: Rainer Hoenicke)


Florida Everglades
Profile
Lake
Okeechobee

The Science Enterprise Workshop
November 1-2, 2016
Davis, California

What We Heard: Key Components of Effective Science Enterprises

1. Integrated modeling and forecasting
2. Peer-review, or over-the-shoulder review process
3. Clear communication on importance of scientific findings
4. Integration of social sciences
5. Willingness to do adaptive management
6. Competitive science funding to attract best and brightest
7. Clear leadership and decision making structure with responsibility at the highest level

Workshop Survey Results

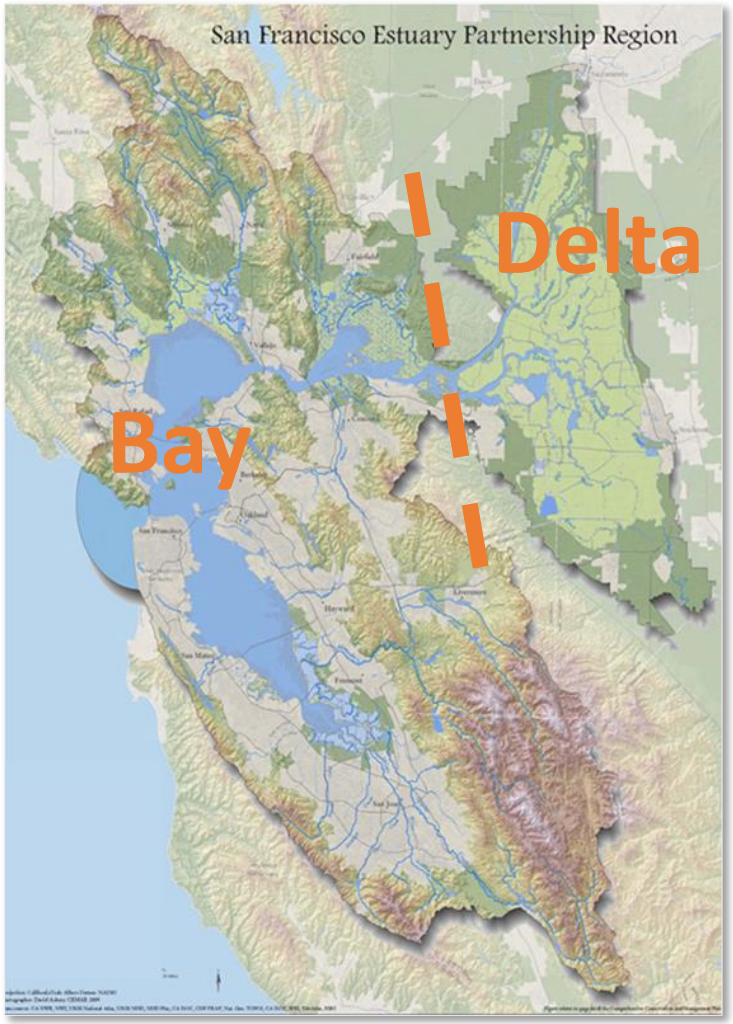
Key Components of Effective Science Enterprise	Level of Importance (scale 1 – 5)
Clear communication on importance of scientific findings	**4.7**
Clear leadership and decision making structure with responsibility at highest level	**4.6**
Integrated modeling and forecasting	**4.4**
Integration of social sciences	**4.2**
Peer-review, over-the-shoulder, process	**4.2**
Competitive science funding to attract brightest and best	**4.1**
Willingness to do adaptive management	**4.0**

Lessons Learned for California Bay-Delta	Level of Importance (scale 1-5)
Clear leadership and decision making structure with responsibility at highest level	**4.5**
Clear communication on importance of scientific findings	**4.5**
More integration between the Bay (lower estuary) and Delta (upper estuary)	**4.4**
Integration of social sciences	**4.4**
Integrated modeling and forecasting	**4.2**
More focus on climate change impacts on the Delta	**4.1**
Competitive science funding to attract brightest and best	**4.0**
Willingness to do adaptive management	**4.0**
Peer-review, over-the-shoulder, process	**3.9**

Next Steps and Recommendations:

1) **Get started on some key early initiatives with DPIIC workgroups (report by April 2017):**

   - To develop **proposal for improved integrated modeling** focused on forecasting and management decisions (e.g., climate change, sea-level rise, ecohydrology)
   - To develop **joint funding strategy** (DSP Action); including a new competitive research grants program to attract best and brightest; and better integrate social sciences with natural sciences and engineering
   - To develop **near-term actions** to improve science management and communication between **Bay and Delta (and watershed)**



Adapted from slide provided by Josh Collins, SFEI

Next Steps and Recommendations:

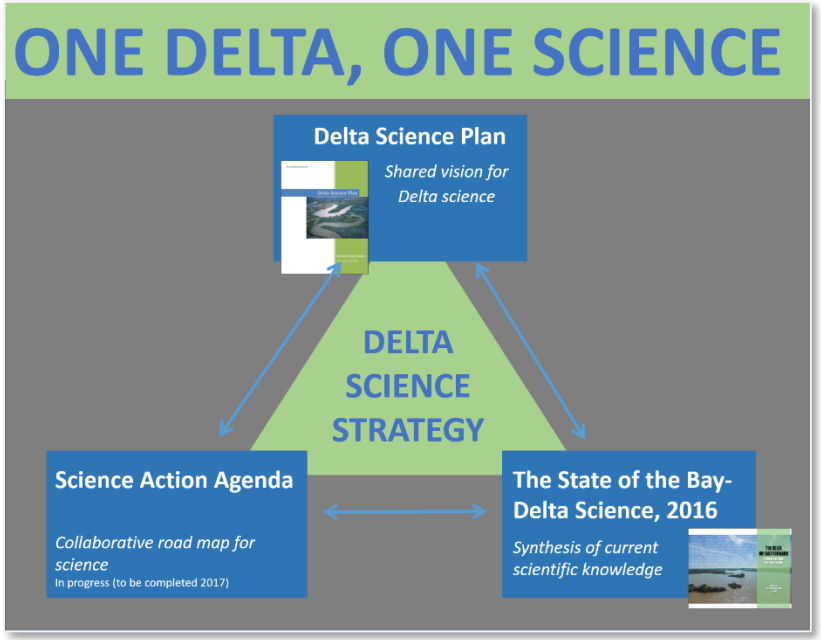
2) **Complete Science Enterprise Workshop Outcomes Report**, further define suite of recommended actions and best practices for improvements to Delta science management, funding and communication, including, but not limited to:

- A **communication and public education plan** for California Bay-Delta science; to identify "champions" that can help support initiatives
- **Formal review of science governance and management structure**; to recommend improvements to better identify leadership, formalize organizational structure, improve decision-making ability (through a 3rd party or audit)
- **Additional proposals** for how to better **integrate social sciences** with natural sciences and engineering; and additional tools needed to understand and communicate risks from **climate change and sea-level rise**

Next Steps and Recommendations:

3) **Continue to use DPIIC workgroups to track progress on current initiatives, and advise on where lessons learned and best practices can enhance efforts:**

- 2017 Science Action Agenda
- Adaptive management frameworks for water operations and ecosystem restoration
- Delta Independent Science Board Review of Monitoring Enterprise
- Implementation of AB 1755 for Data Management



4) **Maintain focus of DPIIC as a forum for interagency deliberation on implementation of the Delta Science Strategy (One Delta, One Science)**

DPIIC Discussion Question:

- What do you see as the highest priorities for implementing workshop recommendations in the near-term? In the long-term?

Many thanks to all who participated in the workshop!